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Online vs. Face-to-Face Teaching: Advantages and Challenges from Students' Perspective

Danijela Miletić[1*], *Jelena Maksimović*[1], *Nevena Trifunović*[2]

[1]University of Niš, Faculty of Philosophy, Department of pedagogy, Serbia,
e-mail: danijela.milosevic@filfak.ni.ac.rs, jelena.maksimovic@filfak.ni.ac.rs
[2]Academy of Educational Medical Vocational Studies in Kruševac, Serbia, e-mail: stanisavljevicnevena@gmail.com

Abstract: The aim of this research was to examine students' perceptions of online and face-to-face teaching by combining quantitative and qualitative research approaches. The research was conducted on a sample of 524 students, and the general results confirm that students are more oriented towards face-to-face rather than online classes. Online teaching is recognized as a more flexible form of learning that enables better organization of time, spatial independence, economy and greater availability of teaching content. This form of learning is often accompanied by a lack of motivation, limited social interaction with professors and colleagues, as well as technical and other difficulties that affect the quality of acquired knowledge. On the contrary, face-to-face teaching is perceived as more stimulating for learning, as it provides direct contact, better exchange of information and a higher level of engagement and motivation, although it is less economical and requires more time resources. The obtained results indicate the need to combine the best aspects of both forms of teaching, which include flexibility and digital possibilities of online learning with direct contact and motivational effects of traditional teaching.

Keywords: *online teaching, face-to-face teaching, students, quality of learning, higher education.*

Introduction

Today, direct instruction is based on modern pedagogical concepts that aspire to a school culture dominated by learning strategies in which students are significantly more involved and activated in the teaching process. However, we often witness that, despite modern learning strategies and dedicated work of teachers, part of the students prefers to master the teaching material through online teaching, which marked the era of digitization. On the other hand, when a student from the school bench, who has understood and adopted the material, "explains" it to another student in "their" way, it becomes much easier and more comprehensible. The question arises, how is it possible that, despite the teacher's expertise and competence, the implemented material represents an obstacle for the student, while with the tools provided for online teaching, it becomes much easier? Such examples are common in our educational practice. They indicate face-to-face learning or online learning. Such learning is seen as a form of learning, where mutual differences in students' perceptions are used as learning potential. And therefore, face-to-face teaching or online teaching - an epoch-making dilemma?

Pronounced changes in society occur under the auspices of modern trends in which information spreads at high speed and becomes more and more complex. Mastering basic knowledge in such an environment is as important as ever, but it is no longer enough. Today's students need to learn much more than previous generations (Boud, 2001). They need to know how to find and use new information, how to make important decisions about complex issues, and how to cooperate with others. There is no doubt that different learning models change the approach to the nature of learning (Gal and Fallik, 2021), because it becomes enjoyable and useful, and its participants become more deeply involved (Gamal, 2017). Therefore, it is necessary to provide the possibility to direct the potential of direct or online learning towards the

*Corresponding author: danijela.milosevic@filfak.ni.ac.rs

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function of encouraging the holistic competence of students, that is, that students not only mutually build and develop holistic support by learning from each other, but also by learning from each other.

Learning is an active and dynamic process in which students learn through work and practical experiences. Establishing a dynamic learning environment requires student-centered teaching, which consists of interactive situations and encourages students to participate more during class. This approach to the educational process is recognized in pedagogical literature as interactive pedagogy (Knežević-Florić, 2006). With an interactive approach, the teacher encourages students to exchange certain knowledge and experiences with each other in order to let them know that interactive relationships are valued in teaching. In practice, it has been observed that some students learn the material most easily while listening to the teacher teach a certain lesson, others by reading contents from textbooks and recommended sources, some while transcribing lessons and making summaries, retelling the lesson, underlining certain teaching contents, extracting key words or theses, drawing mind maps, tables, graphs, etc. In accordance with different learning styles, teachers should carefully select different educational tools for learning (Kovačević, 2021).

Is interaction in the school environment a starter of both face-to-face and online learning? The nature and quality of interactions and relationships are partly determined by the acquired skills and motivation that individual students bring to their experiences. This includes the student's social skills. Some of those skills are emotion recognition and expression, decision-making and problem-solving, perspective-taking, empathy, and communication (Woods and Hanish, 2021). Each of these skills is important for interaction and relationships because it allows individuals to understand their own needs, goals, and desires, but also to understand the needs, goals, and desires of other students. It is considered that student-teacher interaction is one of the key factors in increasing student satisfaction with online teaching (Sher, 2009). Interaction with other students, as well as strong interpersonal relationships, increase students' sense of belonging to a group and are also associated with persistence in studies (Rivera Munoz et al., 2020) and achievements in the learning process (Cardoso et al., 2011).

The fact is that a large part of online learning takes place informally without the teacher's involvement in the process itself, which is characteristic of students' activities in their free time. But formal online learning that takes place in the school environment can contribute more to more effective learning among students than traditional methods of learning and teaching (Baltzersen, 2024; Ilić, 2013: 182). It should not be seen as a substitute for teaching and activities carried out by teachers, because online learning is an important supplement to teaching and learning itself that improves the quality of education and education of students. It can be organized depending on the nature and character of the teaching content, the goal of the lesson, and the needs and abilities of the students. Online teaching directs students towards this global field and provides them with the opportunity to enter the digital work market more prepared and aware. A proactive approach to this form of teaching implies not only the use of existing knowledge, but also turning to predictive research within the framework of creative thinking studies.

Unlike online teaching, classroom teaching is closer to reality, it gives students the opportunity to reflect, discuss, and debate with their colleagues and teachers. With effective teaching, the teacher encourages self-directed learning if: 1) he identifies indicators of the level and structure of knowledge, interests and needs for learning, for gaining experiences, abilities and skills, and establishes how to help the student engage those potentials in solving learning tasks in the zone of the student's immediate further development; 2) get to know the individual learning style and its limiting and encouraging characteristics; 3) determine the learning goals, identify the desired outcomes and acceptable evidence that they have been achieved and 4) together with the student, prepare, implement and evaluate two or three learning plans, getting the student used to often asking himself what he has learned (Ilić, 2013: 182). Effective teaching is a unique process of complementary educational activities of teachers (leading teaching) and cognitive-creative activities of students (learning) with the aim of acquiring knowledge, improving skills, forming positive habits, developing abilities, nurturing moral qualities and other potentials of the emancipated personality of each student to their personal maximum. The level of effectiveness of teaching is determined according to the essential features of its courses and the quality of educational outcomes or results (Ilić, 2015).

The simplest principle that underlies all the syntheses discussed above is "safe learning and teaching". It is achieved when it has an explicit and transparent purpose, when it is challenging, and when both teachers and students strive to achieve the set goal. Safe learning and teaching are achieved when there are exercises whose purpose is actually to achieve the goal, when feedback is established, when teachers and students actively and passionately participate in the process. (Andevski, 2015: 43).

Both face-to-face and online classes can be organized in different ways. Visible structures are less important if they are applied more often. A key condition is the teacher's view of his own role in the learning and teaching process, what is his influence on the student's learning. In this sense, it is necessary for teachers to apply the evaluation of their actions through the information they receive from students, which can be checked, changed, and maintained. This refers to the following aspects: What is each student, following the actions of the teacher, obliged to do? How can available resources be used to move students to the place where, according to the teacher, they should be - and in the most effective way? It is very important what the teacher does, but the most important thing is that - by what he does - he affects the students in the right way. With the appropriate spirit and appropriate actions, a positive learning effect will be achieved.

Bearing in mind that the pace of social changes shows no signs of slowing down in the future, and that it is necessary to monitor and adequately respond to changes in higher education, the goal of this research was to examine the perception of students about online and face-to-face teaching, as active users of these forms of teaching, but also key subjects who can contribute to the identification and implementation of positive changes.

Materials and Methods

Research Aim and Research Tasks

The aim of this research was to examine students' perceptions of online and face-to-face teaching by combining quantitative and qualitative research approaches. The importance of this topic stems from the fact that online teaching is increasingly present in education, especially in higher education institutions. Accordingly, it seeks to determine the current state of practice and the possibilities for its improvement. In accordance with the research objective, the following tasks have been defined:

1. Determine the orientation of students towards online or face-to-face teaching.
2. Examining students' perceptions of online and face-to-face teaching with regard to independent variables (study program and average grade during studies).
3. Examine students' opinions on the advantages and disadvantages of online teaching.
4. Explore the advantages and disadvantages of face-to-face teaching from students' perspective.

The research was based on the assumption that students would show a stronger preference for face-to-face learning compared to online learning, with differences expected in relation to the independent variables (study program and average grade during studies). It was further assumed that students would perceive more advantages than disadvantages of face-to-face teaching, while attributing more disadvantages to online teaching.

Sample

The total sample of the research includes 524 students' Faculty of Philosophy in Niš on the territory of the Republic of Serbia. The sample structure in relation to the observed variables included male (20.6%) and female (79.4%) students. Of the total number of participants, 54.2% studied in non-philological majors, and 45.8% in philological majors. When it comes to the average grade, 21.2% of students had an average between 6 and 7, 30.0% between 7 and 8, 28.1% between 8 and 9, while 20.8% of students had the highest average (between 9 and 10).Taking into account the data on the total number of students enrolled this year and the total sample of this research, the sample size fully meets the 95% confidence interval.

Research Instruments and Procedures

For the purposes of the research, an instrument was constructed that contains 15 statements and examines the preferences of online versus face-to-face teaching in terms of different segments of teaching implementation (*I am more satisfied with online teaching than face-to-face teaching; Online teaching made it easier for me to master the teaching content more than face-to-face teaching*; *Online teaching contributed to greater social interaction with teachers and colleagues than face-to-face teaching*. *My learning progress improved more during online than face-to-face teaching classes*; *I am more motivated*

to work in online classes than in non-direct classes, etc.). The students responded to the items on the scale from 1 (not at all true) to 5 (very true). The validity of the scales is .95, which is confirmed by the Cronbach α value of internal consistency.

The research also included three open-ended questions, which were asked in order to determine the orientation of students towards a certain type of teaching and their perception of the advantages and disadvantages of online and face-to-face teaching.

Students were first introduced to the purpose and tasks of the research. Considering that it is about students who are 18 years old and older, they confirmed their consent to participate in the research. Only after obtaining their consent did the students complete instrument, with the option to withdraw from participation at any time. Completing the instrument took approximately 15 minutes. Full anonymity and confidentiality of participants were ensured throughout the research process.

Data Analysis

For the purposes of this research, the arithmetic mean (M) was employed as a measure of central tendency, while the standard deviation (SD) served as an indicator of variability, showing the degree of deviation from the mean value. To identify differences between variables, an analysis of variance (ANOVA) was conducted and a t-test to examine differences between independent samples. All statistical analyses were carried out using the SPSS 25 software package.

The qualitative analysis was conducted by grouping students' responses into categories based on their similarity, followed by identifying and presenting the most representative responses in their entirety.

Results

In order to determine students' perception of online and face-to-face teaching in relation to the independent variables, t-test and the analysis of variance (ANOVA) were applied. Table 1 shows that statistically significant differences ($p<.05$) were found in students' responses in relation to the study program they attended.

Table 1. *t-test results for the difference between the students' perceptions about the online and face-to face teaching*

	Study programs	*M*	*SD*	*t*	*df*	*p*
Online teaching made it easier for me to master the teaching content more than face-to-face teaching	Non-philological	2.41	.99	-2.181	522	.030
	Philological	2.68	1.05			

**The mean difference is significant at the .05 level*

On average, philology students (M=2.68) agree more strogly with the statement that online teaching made it easier for them to master the material compared to face-to-face teaching, than non-philology students (M=2.41). Therefore, the determined statistically significant difference (t=-2.18, p=.030) in relation to the stated statement indicates that students of philology majors perceive online as opposed to face-to-face teaching as more useful for mastering the content, than students of other majors. There are no significant differences in other statements, which shows that students of all majors have similar attitudes. Table 2 shows the differences in the students' perceptions of the perception of online and face-to-face teaching relative to the average grade during studies. The results of the t-test in Table 2.

Table 2. *Students' percepcions about the online and face-to face teaching in relation to average grade during studies*

	Average grade during studies	*N*	*M*	*SD*	*F*	*df*	*p*
I am more satisfied online than face-to-face	from 6 to 7	111	2.64	1.46	2.867	3	.036
	from 7 to 8	157	2.75	1.52			
	from 8 to 9	147	2.50	1.47			
	from 9 to 10	109	2.23	1.33			

**The mean difference is significant at the .05 level*

The results in the presented table indicate the existence of a statistically significant difference between students of different success, but within only one statement "I am more satisfied with online teaching than face-to-face teaching" (F=2.867; p=.036). A post hoc test showed that there were differences between students with an average of 7-8 and 9-10, whereby students with a lower average were more satisfied with online teaching compared to students with a higher average. For the other statements, the differences were not statistically significant (p > .05), which indicates that the success of students does not significantly affect their perception of satisfaction with online compared to face-to-face teaching.

Table 3. *Student orientation towards the type of teaching*

Type of teaching	Student responses
Online teaching (25%)	- ,, I would opt for online, because we can follow it at any time and from any place. And the most important thing is that I have more time for studying and other obligations". - "Due to practicality - I don't waste time traveling to the university and back, I can sleep a little longer in case I have a morning class, I can drink coffee while listening to a lecture, I can even be in bed and listen to the lecture, and that makes me feel more relaxed." - "I save money with pdf files because I don't have to buy books". - "Because it gives me more time for pre-exam duties than direct classes, it is always available and less stressful." - ,,.I feel more relaxed during online classes, I organize my time and learning pace as suits me. For me personally, the motivation is greater during online classes." - "A more flexible schedule of classes, and the costs of studying are reduced and we have a comfortable time to work in addition to studying." - "Because lectures are not mandatory, so there is less pressure, and because of much more free time."
Direct teaching (70%)	- "Immediate, because it is more pleasant, holds attention longer and is more effective". - "Because of greater motivation, physical activity (the way to college and back), better socialization with colleagues and professors". - "Because it is more effective in terms of student activity and attention in class". - "Direct teaching because there is more interaction and my concentration is better." Mentally, I feel better when I know that I have an obligation to go somewhere during the day and not to spend the whole day in my room. I follow and learn easily and have a greater sense of responsibility" - "It's easier to follow the content, and live teaching is of better quality for knowledge acquisition and interaction". - "I will take into account that at our faculty we deal exclusively with social sciences, it is really absurd to think that social sciences can be learned online".
Combined teaching (5%)	- ,, I could not choose between these two types of teaching. Maybe some combination could be made and both methods of work applied". - "Both have advantages and disadvantages, so it is best to combine them". - ,, Organize some lectures, possibly exercises, live, and some theoretical ones online. So, combined".

In the presented table, the data show that the majority of students (as much as 70%) prefer face-to-face teaching, while fewer (25%) opt for online teaching. A very small percentage (5%) emphasizes the combined model, based on the fact that both types of teaching have their advantages and disadvantages, and that the benefits of both should be used in order to improve educational practice. Reasons in favor of the majority of students' orientation towards face-to-face teaching indicate greater student motivation for learning and work, achieving better social interaction and higher quality teaching. We should not ignore the answers that confirm the importance of online teaching, especially its flexibility in terms of organization, available time, and comfort while attending classes.

Table 4. *Advantages of online classes from the students' point of view*

Categories	Student responses
Spatial flexibility	- "I don't have to get up early and go to class, I follow it from home." - "The big advantage of online classes is that you don't have to put in physical effort to attend classes and it's more relaxed in general because we're in a space that suits us." - "Online teaching is easier for students who do not live in Nis, the classroom is our room, so the comfort is greater.
Better time management	- ,,I can organize my own time, which refers to how much I will devote to each subject per day. It saves time and money." .- "Easy distribution of time and organization of all the obligations we have during studies." - "Easier organization of time if we have private obligations."
Psychological benefits	- "We can follow the lectures in a relaxed way, without any stress." - "Less nervousness and tension." - "Less anxiety due to the absence of a large number of people in one room." - "Personally, I have less nervousness".
Organization and quality of the teaching process	- "We have more time to study and prepare pre-exam assignments." - "Greater availability of learning materials and the possibility of completing several academic duties at the same time." - ,, Existence of diverse and effective methods for processing and adopting materials. And the good thing is that lectures and exercises can be recorded." - "Individual work is present. Everyone can work at their own pace and according to their own capabilities."
Digital literacy	-,,Online classes helped me develop digital skills." -,,We improved the knowledge needed to follow online classes and learned some programs for presentations." -,,I learned to use different programs that mean something to me outside of class as well."

The responses of students shown in Table 4 indicate that online teaching provides spatial flexibility, better organization of time, that it has psychological benefits, positive elements that include the organization and quality of the teaching process, as well as that it encourages digital literacy. Students stated that the online format allows them greater freedom to choose the place and time of study, better coordination of obligations and saving time. It was also pointed out that this way of working reduces stress and anxiety, and creates a more relaxed atmosphere for learning. As additional advantages, students recognized the availability of teaching materials, greater independence in work and the development of digital skills, which are also useful outside the academic context. The mentioned advantages confirm that online teaching contributes to greater flexibility and empowering students for modern and self-directed learning.

Table 5. *Weaknesses of online teaching from the perspective of students*

Categories	Student responses
Lack of social interaction with professors and colleagues	- "Insufficiently high degree of possibility of achieving adequate communication with professors and colleagues, because it is mostly one-sided." - "Given that the cameras are mostly turned off, there is no non-verbal communication." When someone says something, he usually doesn't get any feedback from his colleagues, and sometimes not even from the professor, so it's extremely difficult to interact." - "The interaction between colleagues and between students and professors is impoverished." I believe that virtual communication for educational purposes cannot meet the high level of productivity precisely because of this, in contrast to live teaching." -,,I believe that online teaching largely isolates both students and professors and in some way retards the skills of communication and connecting with people (and socialization, in addition to acquiring academic knowledge and skills, is still an integral part of education and life)."
Lack of motivation and concentration	- "Students lose motivation and become lazy." - "Online classes demotivate me." I notice that others also get lazy because they are "lulled." - "We have no concentration, no attention, and no will to sit alone at home and listen to classes." - "Online teaching is boring and monotonous and does not in any way contribute to motivation and energy when it comes to studying." - "I think the biggest punishment is to lock young people in a room and give them a computer." My motivation is at zero. It's hard for me to study and finish all my duties because I don't see the point of this kind of work."
Didactic-methodical weaknesses	- "With online teaching, much less knowledge is gained because the professors are also more lenient, and this is to the detriment of our knowledge." - "The material is more difficult to master because a lot of independent work is required of us." - "The courses themselves are not designed for online teaching" - "Less time for online tests due to professors' fear of copying" - "Online colloquiums do not show students' real knowledge" - "Professors burden us with pre-exam obligations that are not sufficiently valued" - "The impossibility of organizing joint work in groups and workshops" - "Professors do not adequately prepare for teaching"
Organizational weaknesses	- "It happened that professors don't know how to organize themselves, so they are late for classes or change the dates of lectures." - "Some professors did not send work materials on time" - "A large number of students do not listen to lectures because they are not compulsory" - "There is too little time for tests and assignments in online classes"
Technical problems	- ,,Poor conditions for following online classes. Some students may not have equipment to listen to online classes, or share a laptop/computer with another family member. It also happened that some students did not have access to the Internet or their Internet connection was bad." - "Due to numerous technical problems, it may be difficult to follow the lessons, and the few who do not have the technical conditions cannot keep up with the information regarding teaching and learning."

One of the key weaknesses of online teaching, according to students, is the lack of adequate communication and interaction with professors and colleagues. This form of teaching, according to the respondents, makes it difficult to establish quality relationships and mutual connections between the participants of the teaching process. Students also pointed out that online teaching does not provide sufficient incentive for learning, which, among other things, can be linked to insufficient motivation, but also to shortcomings in the organization and technical conditions of its implementation. A significant number of responses indicate the poor quality of teaching preparation and implementation, which points to the need for its further improvement.

Table 6. *Students.s responses on the benefits of face-to-face teaching*

Categories	Student responses
Pedagogical communication	- "I will never forget all the lessons I learned from my professors." I learned from them that the pedagogical approach and how to communicate with others is very important." - "When I talk live with colleagues and professors, I can see their reactions and then I can judge whether I did well or not, because those non-verbal signs cannot be seen when we have distance learning. - "Nothing can replace live contact with professors and colleagues." We can get to know each other better and build a relationship of trust and respect." - "The best cooperation is achieved live, because that's how we communicate two-way and we respect each other more and socialize."
Pedagogical climate	- "The advantage of direct teaching is that I feel beautiful and fulfilled in classes." - "At our university, everyone tries to create a nice atmosphere so that the students enjoy and learn." - "Live teaching contributed to me socializing more with my colleagues, because the professors put us in a position where we have to interact with each other." Then friendships develop and somehow we bond better." - "It means a lot to me that I can have a good relationship with everyone. There are few of us in the course and it makes it difficult for us to study if we don't have a good relationship and if we don't help each other."
Didactic-methodical aspect of teaching	- "We often work in a group during classes and learn from each other that way." We are never bored because the professors apply different work methods." - "Colloquiums and exams are much more difficult to take live, but that is actually an advantage of face-to-face teaching." Not everyone can pass and professors have higher criteria for passing." - "It requires active participation, full attention and concentration." - "Learning is much easier because I can ask the professors anything and they immediately explain the material to me." - "Professors design the class in such a way that they put us in a situation where we have to think, connect and critically analyze what we learn." - "Professors can explain the grade to us, monitor our work and give us the opportunity to assess for ourselves how much we know and how much we don't." - "Direct teaching is of high quality, because it is based on mutual discussion between professors and students, and therefore we can open up various questions and dilemmas." And it's also much more interesting, because the way of working is somehow more creative.
Developing social-emotional competencies	- "Live in some subjects we learn how to express emotions, which is very important for us as individuals and professionals." - "In the classes, we develop empathy and come to a conflict of opinion with each other, this helps us for life and the profession I have chosen for." Tomorrow I will have such situations in practice, so it is important that I have those skills." - "Our professors and teaching assistants emphasize that we show tolerance, because we are all different and come from different families and backgrounds." - "Live teaching is good because it gives us the feeling that we are important to others, that I can rely on my colleague, understand him better and share some problems with him, and he listens to me and helps me overcome them."

Given that the research results showed that students prefer face-to-face teaching, the answers shown in Table 5 confirm a number of significant advantages of this type of work. Among them, the following categories stand out: pedagogical communication, pedagogical climate, didactic-methodical aspect of teaching and development of social-emotional competences. Students especially emphasize the importance of direct contact with professors and colleagues, and emphasize the importance of an open, quality and supportive relationship, based on cooperation, mutual respect, trust and a pleasant atmosphere that encourages learning and work. In addition, the respondents believe that it is extremely important that teaching be diverse in terms of methods and forms of work, as well as that the teacher provides continuous support to students in mastering the teaching content, monitoring progress and evaluating their achievement. Students especially emphasize the importance of developing social-emotional competencies, which they consider important for their future professional roles, which represents another significant advantage of face-to-face teaching classes.

Table 7. *Students' answers about the weaknesses of direct instruction*

Categories	Student responses
Organizational and economic weaknesses of direct teaching	- "It bothers me that I have to print books, and now everything is online and I don't understand what we would do when the professors can send them to us in pdf format." - "Well, the weakness is that I'm from another city and I have to either rent an apartment or travel every day to the university." - ,,.Mostly, we have lectures and exercises every day, sometimes for the whole day. When it's like that, I have to buy something to eat, and sometimes I sit down for a drink with my colleagues. I need money for all that, so maybe that's a weakness"
Lack of flexibility and free time	- "It is more difficult for me to organize myself and coordinate all my obligations, because it takes a lot of time for me to go to college, follow lectures and exercises, and the fact that we have breaks, so I waste that time, and if I were at home I could use it to finish pre-exams or to study or for private things." - "The weakness is that sometimes I come for a consultation, but I can't find the professor, so I wait for him and waste my time." - "Exams sometimes take a long time and I can't use that time for anything, I have to wait for them to call me to answer." - "Because I'm often at university, I don't have much free time for other activities and seeing friends."

Although students mostly emphasized the advantages of direct teaching, some of them also pointed to its disadvantages, which primarily relate to economic unprofitability and limitations in terms of time and organization of obligations. Namely, the students stated that this type of teaching requires higher financial allocations, both for printing teaching materials and for the daily expenses of staying at the university (food, transportation, accommodation). In addition, the problem of less flexibility in the schedule of duties was highlighted, given that physical attendance at classes and breaks between classes take a significant amount of time, which, according to the students, could be used for exam preparation or private activities. Also, some students mentioned situations in which there is an unplanned loss of time, such as waiting for consultations or longer exam dates.

Discussions

One of the results of this research confirms statistically significant differences in the perception of students of philology and non-philology majors. More precisely, it was determined that students of philology majors perceive online teaching as more useful for mastering the content than students of other majors. Similar findings were recorded in other studies (Mohamed et al., 2023; Johnson and Palmer, 2015), which indicate that this perception of students results from the greater availability of teaching materials that enable repeated learning, as well as from the fact that this form of teaching is particularly useful in mastering theoretical content. However, we should not ignore the findings of other research (Siddiqui et al., 2024; Photopoulos et al., 2022), which indicate that students of philology majors prefer non-direct teaching to a greater extent because of its practical character, i.e. the possibility of active language practice and direct interaction with others. Therefore, the nature of the teaching content greatly contributes to the students' perception of the usefulness of online teaching. According to the above, it can be concluded that unlike non-direct teaching, which is irreplaceable in terms of developing communication skills, online teaching is more suitable for the acquisition of theoretical content and independent learning.

The research also confirmed the assumption about the existence of differences in the perception of online and face-to-face teaching of students in relation to their academic success. Although the difference exists only in terms of satisfaction with online teaching, the result is significant because it indicates that students with a lower average were more satisfied with it compared to students with a higher average. Mohamed et al. (2023) obtained the same results, which may indicate that academically successful students have higher expectations and a more critical attitude towards online classes, while students with a lower average can be said to take different elements that meet their criteria.

On the other hand, the answers of the students confirm that 70% of them prefer face-to-face teaching, 25% opt for online teaching, and only 5% of students highlight the combined model, which, in their opinion, would contribute the most to the quality of teaching. Authors Adnan and Anwar (2020) surveyed students and found out that there is a reservation of students towards online learning. As many as 71.4%

of students stated that traditional learning was more effective compared to online learning. One of the reasons for such results may be that face-to-face teaching enables more active and effective learning than online teaching.

When it comes to the advantages and disadvantages of online teaching, significant qualitative results were obtained that confirm the initial assumptions and are in line with the quantitative indicators. Regarding the advantages of the separate category (spatial flexibility, better organization of time, psychological benefits, positive elements of organization and quality of the teaching process and encouraging digital literacy), they point to different, but also interconnected aspects. The perception of the effectiveness of online teaching depends not only on organizational factors, but also on the psychological adaptation and emotional experience of students in the digital environment. Students recognize the potential of online teaching, which relates to the improvement of the structure and quality of the educational process, and emphasize the importance of digital literacy, which is the basis for the application of online teaching and its further improvement. Another research confirmed that online teaching enables active and flexible learning and fosters an individual approach. The observed advantages are in accordance with the findings of this research, and concern flexibility, cost-effectiveness, time efficiency and the possibility of applying innovative learning methods (Govender and Matlhaba, 2024). As the results of other research confirm that self-motivation, the ability to understand e-learning, as well as training students for independent work are very important for online teaching (Jevtić, Milošević and Jevtić-Trifunović, 2022; Bismala and Manurung, 2021), it is evident that many of them are still not prepared for this type of work. Bearing in mind that the quality of teaching is greatly influenced by the teacher, the need to redefine his role in accordance with modern needs and conveniences that this model provides is recognized. One of the ways of adequate preparation for such challenges is to implement programs with future teachers that aim to develop pedagogical and professional competencies through structured mentoring, which also contributes to their professional performance and the success of students (Yespolova et al., 2025).

The students' answers about the weaknesses of online teaching are classified within the categories related to the lack of social interaction, insufficient cognitive and emotional engagement during the learning process, low level of didactic-methodical preparation and realization of teaching and organizational and technical difficulties in the implementation of this type of teaching. There is no doubt that students emphasize the disadvantages of online teaching more than the advantages, which indicates that the online form of teaching has not yet reached the desired quality in order to support the academic, social, emotional and other needs of students. The research conducted by Adnan and Anwar (2020) also confirms the weak reach of the Internet, which made it difficult to conduct online classes, but also the lack of social interaction with colleagues and the application of interactive methods and forms of learning in a digital environment. The same results were reached by research conducted in Serbia on a sample of students, which confirmed the results obtained in this research and which indicated the need for innovation in online teaching, especially in the segments of presentation of teaching content (Arsenijević et al., 2022). It is equally important to mention that one of the key disadvantages of online teaching is the impossibility of conducting practical teaching (Kulal and Nayak, 2020; Nambiar, 2020), which was also confirmed by this research.

Bearing in mind that students emphasized the advantages (pedagogical communication, pedagogical climate, didactic-methodical teaching quality and development of social-emotional competences) much more than the shortcomings of face-to-face teaching (economic unprofitability and limitations in terms of time and organization of duties), it can be seen that the shortcomings of face-to-face teaching are actually the advantages that students have stated for online teaching. This result confirms once again that direct teaching is the best way for students to achieve mutual relations with professors and colleagues, to acquire adequate theoretical and practical knowledge supported by active ways of working and continuous support of teachers, but also to develop socio-emotional competences, which they consider crucial for their professional vocation. Recent research confirms the importance of social interaction and cognitive skills. More precisely, from emotional support and interactive relationship with others, motivation for learning and student achievement increase (Karpovets et al., 2025). Therefore, open communication and a supportive atmosphere are essential for a quality relationship and the realization of online teaching (Almossa, 2021). From the attached, it can be concluded that in teaching practice, it is extremely important to combine these two types of teaching, because they mutually contribute to different aspects that affect the quality of teaching and studying.

Given that a limitation of this study was focusing solely on student perceptions, without including all

segments of online and face-to-face instruction, examining teachers' perceptions and comparing them to student perceptions could provide significant insights for future research.

Conclusions

The results of this research confirm the differences in students' perceptions in certain aspects of online and face-to-face teaching in relation to the study program they attend and the academic success they achieve within their study programs. The orientation of students towards direct teaching stems from the advantages they attribute to it, primarily in terms of quality pedagogical approach, stimulating pedagogical atmosphere and opportunities for the development of socio-emotional competences.

Although students also recognize certain advantages of online teaching, such as spatial flexibility, better organization of time, psychological benefits and the development of digital literacy, their opinions nevertheless point to more pronounced challenges of this type of work, which are reflected in reduced social interaction, weaker engagement and the present organizational and technical difficulties. Despite this, the potential of online teaching remains an important resource for improving modern teaching practice and adapting it to the needs of students in the digital age.

Taking into account that both types of teaching have their advantages and disadvantages and that, according to the students' perception, it is first of all necessary to raise the quality of online teaching, the need for complementary consideration and application of both models in higher education practice is recognized. In order for online teaching to take root in higher education institutions, it is necessary to provide not only technical conditions for its implementation, but also other segments related to the teaching process and cooperation with students. It is especially important to cultivate a positive attitude towards this form of teaching, to develop and continuously improve the competences of teachers and students, as well as to devise ways to satisfy the emotional and social needs of students. In addition, it is particularly important to ensure the pedagogical conditions necessary for quality online teaching, which include thoughtful planning of teaching activities, application of methods and strategies that actively involve students, adaptation of content to different learning styles, as well as continuous training of teachers for the application of innovative tools in online teaching. A high-quality pedagogical approach allows the teaching to be not only informative, but also motivating, interactive and directed towards the development of students' intellectual, emotional and social competences. Such an approach not only ensures the quality of education, but also enables the holistic development of students as future bearers of social progress.

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Conflict of interests

The authors declare no conflict of interest.

Data availability statement

The data collected and analyzed during the research are fully included in the published article. Necessary details, clarifications, or data supporting the findings of this study are available from the corresponding author upon request. For further information on data availability and journal policies, please refer to the official IJCRSEE guidelines.

Institutional Review Board Statement

The study did not involve procedures requiring formal approval from an institutional review board

(IRB) or ethics committee, as it relied solely on voluntary, anonymous participation in full compliance with ethical standards. Prior to participation, informed consent was obtained from all participants. Participants were informed of the study's objectives, procedures, potential risks, and benefits, as well as their right to withdraw at any stage without any negative consequences. All ethical considerations were observed, including the confidentiality of personal information, voluntary participation, and data protection in accordance with applicable legal and institutional guidelines.

Author Contributions

Conceptualization, D.M.; data curation, D.M. and N.T.; methodology, D.M. and J.M.; resources, D.M. and J.M.; formal analysis, D.M., J.M.; validation, D.M., J.M. and N.T.; writing—original draft preparation, D.M., J.M. and N.T.; writing—review and editing, D.M., and J.M. All authors have read and agreed to the published version of the manuscript. All authors have read and agreed to the published version of the manuscript.

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